

**REMARKS**

Claims 1, 2, 13, and 14 are currently being amended. Basis for the amendments can be found throughout Applicant's specification, including page 5, lines 13-15. The amendments presented herein do not introduce new matter within the meaning of 35 U.S.C. §132. Accordingly, the Examiner is respectfully requested to enter these amendments.

**1. Rejection of Claims 1-8, 13, and 19 Under 35 U.S.C.**

**§102(b)/103(a) to U.S. Patent 5,529,845**

Applicant respectfully traverses the rejection of claims 1-8, 13, and 19 as being anticipated by, or in the alternative being unpatentable over U.S. Patent 5,529,845 (herein referred to as, "Branchesi, et al.").

As is well-settled, for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed.

Cir. 1990).

Additionally, the U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

With respect to the instant rejection, Applicant respectfully believes Branchesi, et al. fails to disclose, teach, or suggest Applicant's currently claimed fibers comprising a fibre for thermal bonding comprising a propylene polymer composition (A) having a MFR value from 6 to 15 g/10 min. and a tenacity value higher than 20 cN/tex, the propylene polymer composition (A) comprising: ii) a crystalline propylene polymer composition having a melting

temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight; the crystalline propylene polymer composition comprising (percent by weight): I) 20-80% of a crystalline **propylene homopolymer**; and II) 20-80% of a crystalline **random copolymer** selected from: IIa) a copolymer of propylene with **0.8 to 5% by weight of ethylene**; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned. In particular, Applicant has unexpectedly found that when fibers are produced from propylene compositions comprising, at the very least, 20-80% of a crystalline propylene homopolymer and 20-80% of a crystalline, random propylene copolymer having **0.8 to 5% by weight of ethylene**, the resultant fibers have improved tenacity values (i.e., higher than 20 cN/tex).

Alternatively, Branchesi, et al. discloses in col. 1, line 50 - col. 2, line 22,

Accordingly the present invention provides a noncomposite, undrawn fiber for nonwoven fabrics having thermowelding strength equal to or greater than 5 Newtons and/or flexibility higher than 800, comprising a polymer material additivated with organic phosphites and/or phosphonites, HALS (hindered amine light stabilizers) and optionally phenolic antioxidants, said polymer material being selected from:

- 1) isotactic propylene homopolymers having an isotactic index greater than 90;
- 2) random copolymers of propylene with ethylene and/or a C<sub>4</sub>-C<sub>8</sub>  $\alpha$ -olefin; and
- 3) blends of homopolymers 1) with copolymers 2) , or

blends of at least one of the above mentioned homopolymers and copolymers with heterophasic propylene polymers, said heterophasic polymers comprising (by weight):

A) from 10 to 60 parts of a propylene homopolymer, or a copolymer of propylene with ethylene and/or a C<sub>4</sub>-C<sub>8</sub> α-olefin, containing over 80% of propylene and having an isotactic index greater than 80 (Fraction A);

B) from 1 to 25 parts of an essentially linear semicrystalline **copolymer of ethylene** with a C<sub>3</sub>-C<sub>8</sub> α-olefin, insoluble in xylene at ambient temperature (Fraction B); and

C) from 15 to 87 parts of a **copolymer fraction of ethylene** with propylene and/or a C<sub>4</sub>-C<sub>8</sub> α-olefin, and optionally minor quantity of diene, said copolymer fraction containing from **10 to 80% of ethylene** and being soluble in xylene at ambient temperature (Fraction C).;

said fiber being obtained by a spinning process operating with a real or equivalent output hole diameter of less than 0.5 mm, with a hole flow-rate ranging from 0.1 to 0.6 g/minute and at a spinning temperature ranging from 260° C. to 320° C., using polymers (1) or (2), or polymer blends (3), having MFR from 5 to 40 g/10 min, and in the absence of a drawing step. (Emphasis added)

Accordingly, Branchesi, et al. clearly does not disclose or teach Applicant's claimed fibers produced from the specifically claimed propylene polymer compositions comprising, at the very least, I) 20-80% of a crystalline **propylene homopolymer**; and II) 20-80% of a crystalline **propylene random copolymer** selected from: IIa) a copolymer of propylene with **0.8 to 5% by weight of ethylene**. Therefore, for this reason alone, Applicant respectfully believes the instant rejection should be withdrawn.

Notwithstanding, Branchesi, et al. additionally discloses in

col. 2, lines 29-32,

The random copolymers 2) contain a quantity of comonomer ranging from 0.05 to 20% by weight. When the quantity of comonomer exceeds 5%, said copolymers must be blended with the propylene homopolymer.

In other words, Branchesi, et al. teaches that if the comonomer content exceeds 5% in the random copolymers 2), then the copolymers **must** be blended with the propylene homopolymer. As such, if the comonomer content does not exceed 5% in the random copolymers 2), then according to the invention of Branchesi, et al., the copolymers do not have to be blended with the propylene homopolymer.

Alternatively, Applicant has unexpectedly found that when 20-80% of a propylene copolymer comprising a commoner content of **0.8 to 5% by weight of ethylene** is combined with 20-80% of a propylene homopolymer, the fiber produced from the resultant polymeric composition unexpectedly comprises much higher tenacity values than propylene homopolymers not having the propylene copolymer present. In fact, the Examiner's attention is directed towards Examples 3-6 in Applicant's specification, versus Comparative Example 2c. Examples 3 and 4 are derived from Example 1 (see page 19 in Applicant's specification, as well as Table 3) and Examples 5 and 6 are derived from Example 2, while Comparative Example 2c is derived from Comparative Example 1c (see page 18 and Table 2 in Applicant's specification). Accordingly, in all Examples 3-6, a propylene polymer composition comprising a propylene homopolymer and a

**propylene copolymer** having an **ethylene comonomer content of 0.8 to 5%** by weight are produced. Alternatively, in Comparative Example 2c the propylene polymer composition comprises **only a propylene homopolymer** (see page 18 and Table 2 in Applicant's specification). The resultant fibers from Examples 3-6 have tenacity values ranging from **25.4 cN/tex to 20.6 cN/tex, respectively**, with an average tenacity value of **22.53 cN/tex**, whereas the fibers of Comparative Example 2c has a tenacity value of **20.0 cN/tex**. As such, the fibers comprising the propylene copolymer having an ethylene content of 0.8 to 5% by weight, along with the propylene homopolymer, unexpectedly have an average tenacity value that is **more than 12% higher** than fibers comprising only the propylene homopolymer.

Furthermore, in addition to unexpectedly better tenacity values, the currently claimed fibers unexpectedly have higher bonding forces. In particular, the Examiner is directed to Table 9 in Applicant's specification. Example 11 (labeled Example 12 in Table 9), which is derived from Example 10, which was derived from Example 1, has a tenacity value of **42.7 cN/tex** and a bonding force at 150°C of **590 cN** versus Comparative Example 5c (strictly a propylene homopolymer) having a tenacity value of 19.4 cN/tex and a bonding force at 150°C of 415 cN. Accordingly, Example 12 in Table 9 has a **tenacity value that is over 120% higher** and a **bonding force over 42% higher** than that Comparative Example 5c.

Therefore, in light of the above, Applicant respectfully

believes the currently claimed fibers are novel and patentably distinguishable from Branchesi, et al.

Furthermore, the instant Office Action states on page 3, line 15 - page 4, line 7,

Regarding applicants' argument against the use of *In re Aller*, it is noted that applicant has not overcome the rejections as set forth in the previous office action as there is no mention of unexpected results. Further, examiner is unclear as to where the MPEP 2144 teaches that the *In re Aller* case is directed to identical processes. The pending claims of the instant application are directed to a product and not a process. Further, it is noted that applicant recites that the only difference between appellants process and the prior art reside in the temperature in which the process was carried out, and the concentration of the sulfuric acid used. (See pg. 8-9). . . . Therefore, examiner has reason to believe that the fiber of Branchesi et al. is at minimum a prima facie case of obviousness over the instant application.

With respect to the Examiner's contention that Applicant has not mentioned any unexpected results with respect to the currently claimed fibers in view of Branchesi, et al., in light of Applicant's arguments above, Applicant respectfully believes this issue is now moot. As for the Examiner's inquiry regarding where *In re Aller* is directed towards "identical processes" in the MPEP, wherein identical processes means the steps and constituents of the process are identical with the **only** difference residing in the temperature and the concentration of the sulfuric acid used, the Examiner is directed to MPEP §2144.05 (II)(A), which states,

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence

indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (**Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.**) (Emphasis added)

As outlined in Applicant's previous response on page 8, line 16 - page 9, line 8, which is incorporated herein by reference in its entirety, Applicant states,

As for the Examiner's reliance on *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) throughout the current Office Action, as well as in the rejection of claim 4, Applicant respectfully believes the facts of *In re Aller* are clearly different than those of the instant application. See MPEP §2144 (III). In particular, *In re Aller* relates to **identical** processes (i.e., identical in steps and constituents of the process), in which the **only** difference between appellants process and the prior art resided in the temperature in which the process was carried out, and the concentration of the sulfuric acid used. This, however, is markedly different than the facts before the Examiner in the instant application. In fact, as outlined *supra*, Applicant respectfully believes the currently claimed fibers comprising the crystalline **propylene** polymer composition (ii) comprising, in part, components IIa-IIc are markedly different than those of Branchesi, et al. Accordingly, Applicant respectfully traverses the Examiner's reliance on *In re Aller*, *Id.* (Emphasis in original)

Therefore, as outlined above, Applicant respectfully traverses the Examiner's use of *In re Aller* given the clear differences in facts surrounding the decision in *In re Aller* versus those in front of the



Examiner in the instant application. In fact, the MPEP states in §2144 (III) and §2144.04, respectively,

LEGAL PRECEDENT CAN PROVIDE THE RATIONALE SUPPORTING OBVIOUSNESS **ONLY IF THE FACTS IN THE CASE ARE SUFFICIENTLY SIMILAR TO THOSE IN THE APPLICATION**

The examiner must apply the law consistently to each application after considering all the relevant facts. If the facts in a prior legal decision **are sufficiently similar** to those in an application under examination, the examiner may use the rationale used by the court. If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on **\*\* the rationale >used by the court< to support an obviousness rejection.** 'The value of the exceedingly large body of precedent wherein our predecessor courts and this court have applied the law of obviousness to particular facts, is that there has been built a wide spectrum of illustrations and accompanying reasoning, that have been melded into a fairly consistent application of law to a great variety of facts.' *In re Eli Lilly & Co.*, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990).

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2144.04 Legal Precedent as Source of Supporting Rationale  
[R-6]

As discussed in MPEP § 2144, if the facts in a prior legal decision **are sufficiently similar** to those in an application under examination, the examiner may use the rationale used by the court. Examples directed to various common practices which the court has held normally require only ordinary skill in the art and hence are considered routine expedients are discussed below. If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection. (Emphasis added)

Furthermore, Applicant respectfully responds as follows with respect to the Examiner's contention that,

. . . it is noted that applicant recites that the only difference between appellants process and the prior art reside in the temperature in which the process was carried out, and the concentration of the sulfuric acid used. (See pg. 8-9)

However, as outlined *supra*, this is a misinterpretation by the Examiner. In particular, the decision of *In re Aller* was based on a fact pattern that the only differences in appellants process (i.e., not Applicant in the instant application) and the prior art resided in the temperature in which the process was carried out, and the concentration of the sulfuric acid use. However, as outlined above, **this is clearly different than the facts before the Examiner for the instant application.** Accordingly, Applicant maintains the traversal of the Examiner relying on *In re Aller* in the instant rejection given the decision of *In re Aller* was based on facts clearly different than those in the instant application. As such, given the portions of the MPEP highlight above, Applicant respectfully believes any reliance of *In re Aller* should be removed. Applicant has included a copy of the decision of *In re Aller* herewith this response.

In light of the above, Applicant respectfully believes the current obviousness rejection to Branchesi, et al. should be withdrawn.

**2. Rejection of Claim 14 Under 35 U.S.C. §103(a) to Branchesi, et al. in view of U.S. Patent 5,607,798**

Applicant respectfully traverses the rejection of claim 14 to Branchesi, et al. in view of U.S. Patent 5,607,798 (herein referred to as, "Kobyliyker, et al.").

As outlined *supra*, the U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

Arguments regarding Branchesi, et al. *supra* are incorporated herein by reference in their entirety. As for Kobyliyker, et al., Applicant respectfully believes Kobyliyker, et al. fails to remedy

the deficiencies of Branchesi, et al. In particular, as with Branchesi, et al., Kobylivker, et al. alone, or in combination with Branchesi, et al., fails to disclose, teach, or suggest Applicant's currently claimed fibers for thermal bonding comprising a propylene polymer composition (A) having an MFR value from 6 to 15 g/10 min. and a **tenacity value higher than 20 cN/tex**, the propylene polymer composition (A) comprising: ii) a crystalline propylene polymer composition having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight; the crystalline propylene polymer composition comprising (percent by weight): I) 20-80% of a crystalline **propylene homopolymer**; and II) 20-80% of a crystalline **random copolymer** selected from: IIa) a copolymer of propylene with **0.8 to 5% by weight of ethylene**; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned. In particular, Kobylivker, et al. discloses in col. 6, lines 1-5,

The NMR spectrum and IR curve of the polymer show that KSO-57P has about **3 percent random ethylene molecules and about 9-10 percent block ethylene molecules**, hence the term 'random block copolymer' as mentioned above [sic] (Emphasis added)

Accordingly, the copolymers of Kobylivker, et al. clearly contains much higher amounts of ethylene than those currently claimed by

Applicant.

Additionally, Kobylivker, et al. discloses in col. 5, lines 47-60,

The fibers of this invention are blended thermoplastic polymer fibers, so the random block copolymer useful in this invention must be miscible with the high crystallinity polypropylene polymer and remain in a noncrystalline phase in a semicrystalline fiber. It preferred that no compatibilizer be used. **In order to meet these criteria, suitable random block copolymers must have a melt temperature of less than 160° C. (320° F.).** Suitable random block copolymers are available from the Himont Company of Wilmington, Del. under the trade designation KSO-57P. Himont's KSO-57P has a melt flow rate of 30 and a density of 0.9 gm/cc, according to page 673 of Plastic Technology's Manufacturers Handbook & Buyer's Guide, 1994/95 from Bill Publications, 355 Park Ave. South, N.Y., N.Y., 10010. (Emphasis added)

Alternatively, the currently claimed crystalline propylene polymer composition (i.e., component ii)) has a melting temperature **higher than 153°C, and can be 155°C or higher** (see page 5, line 1 in Applicant's specification). Accordingly, given the differences outlined *supra*, as well as the unexpected results outlined above, Applicant respectfully believes one of ordinary skill in the art would not have modified both Branchesi, et al., and Kobylivker, et al., to try and arrive at Applicant's currently claimed fiber compositions.

In light of the above, Applicant respectfully believes the current obviousness rejection to Branchesi, et al. in view of Kobylivker, et al., should be withdrawn.

**CONCLUSION**

Based upon the above remarks, Applicant respectfully believes the current rejections should be withdrawn. The Examiner is therefore respectfully requested to reconsider and withdraw the rejections, and allow pending claims 1-19. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned practitioner if she has any questions or comments, or such action would expedite prosecution of this application.

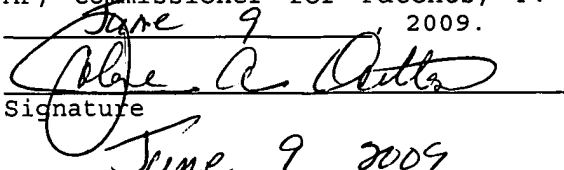
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